MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Selected official pages for procurement and maintenance review

PRODUCT BRAND

Siemens

PRODUCT MODEL

6ES7590-1AC40-0AA0

245 mm aluminum mounting rail. Relevant section pages: 37, 39, 224. Adjacent model text on shared pages is outside this product reference.

OFFICIAL SOURCE

S7-1500 / ET 200MP Automation system; 12/2014

Siemens original documentation and product reference

12/2014 system-manual reference. Use only the 245 mm rail entries. Other rail lengths and components on shared pages are outside this product's specifications.

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Amikon Limited prepared this independent reference package. Selected manufacturer pages follow with their original content and pagination visible.

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

⚠ DANGER

indicates that death or severe personal injury **will** result if proper precautions are not taken.

⚠ WARNING

indicates that death or severe personal injury **may** result if proper precautions are not taken.

⚠ CAUTION

indicates that minor personal injury can result if proper precautions are not taken.

NOTICE

indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

⚠ WARNING

Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

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Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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Installation 4

4.1 Basics

Introduction

All modules of the S7-1500 automation system/ET 200MP distributed I/O system are open equipment. This means that you may only install this system in housings, cabinets or electrical operating rooms. These housings, cabinets or electrical operating rooms must only be accessible with a key or tool. Access may only be possible for instructed or authorized personnel.

Installation position

The S7-1500 automation system/ET 200MP distributed I/O system can be used in a horizontal installation for ambient temperatures up to 60 °C and in vertical installation for ambient temperatures up to 40 °C. Additional information can be found in the chapter Mechanical and climatic ambient conditions (Page 214).

Mounting rail

In addition to the S7-1500/ET 200MP modules, other components can be mounted on the mounting rail; for example, modules from the S7-1200 and ET 200SP portfolio, terminals, circuit breakers, small contactors or similar components.

These components can influence the installation dimensions for the cable duct.

Modules can be mounted up to the outer edge of the mounting rail (marginless assembly).

The mounting rails are available in various lengths. You can order the mounting rails using the online catalog or the online ordering system. The available lengths and part numbers can be found in the Accessories/spare parts (Page 224) section.

4.2 Installing the mounting rail

Lengths and drill holes

The mounting rails are delivered in five lengths:

- 160 mm
- 245 mm
- 482.6 mm (19 inches)
- 530 mm
- 830 mm
- 2000 mm

The part numbers can be found in the Accessories/spare parts (Page 224) section.

The mounting rails (from 160 to 830 mm) come with two drill holes for fixing screws. A set of screws for grounding the mounting rail is provided.

The 2000 mm mounting rail is provided for assemblies with special lengths and does not have holes for fixing screws. No set of screws for grounding is enclosed with the mounting rail (can be ordered as an accessory (Page 224)).

The specifications of the maximum offsets between two drill holes can be found in the table, "Dimensions for the drill holes".

Tools required

- Commercially available hacksaw
- Drill ∅ 6.5 mm
- Screwdriver
- Size 10 adjustable screw-wrench or socket wrench for grounding cable connection
- Adjustable screw-wrench, matching the selected fixing screws
- Stripping tool and crimp tool for the grounding cable

Accessories/spare parts

B

Accessories for the S7-1500 automation system/ET 200MP distributed I/O system

Table B- 1 General accessories

Description	Part number
Mounting rail	
• Mounting rail, 160 mm (with drill holes)	6ES7590-1AB60-0AA0
• Mounting rail, 245 mm (with drill holes)	6ES7590-1AC40-0AA0
• Mounting rail, 482 mm (with drill holes)	6ES7590-1AE80-0AA0
• Mounting rail, 530 mm (with drill holes)	6ES7590-1AF30-0AA0
• Mounting rail, 830 mm (with drill holes)	6ES7590-1AJ30-0AA0
• Mounting rail, 2000 mm (without drill holes) for cutting to length	6ES7590-1BC00-0AA0
PE connection element for mounting rail, 2000 mm (spare part), 20 units	6ES7590-5AA00-0AA0
Front connector (incl. four potential bridges, cable tie, and individual labeling strip) for 35 mm modules	
• Screw-type terminals, 40-pin	6ES7592-1AM00-0XB0
Front connector (incl. four potential bridges, cable tie, and individual labeling strip) for 35 mm modules	
• Push-in terminal (40-pin)	6ES7592-1BM00-0XB0
Front connector (incl. cable tie and individual labeling strip) for 25 mm modules	
• Push-in terminal (40-pin)	6ES7592-1BM00-0XA0
4-pole connection plug for supply voltage (spare part), 10 units	6ES7193-4JB00-0AA0
DIN A4 labeling sheet (10 x for labeling the 35 mm I/O modules)	
• Pre-perforated, AI gray	6ES7592-2AX00-0AA0
DIN A4 labeling sheet (10 x for labeling the 25 mm I/O modules)	
• Pre-perforated, AI gray	6ES7592-1AX00-0AA0
U connector (spare part), 5 units	6ES7590-0AA00-0AA0
I/O shielding set for 35 mm modules (consists of: power supply element, shielding bracket, and shield clamp), (spare part), 5 units	6ES7590-5CA00-0AA0
I/O shielding set for 25 mm modules (consists of: power supply element, shielding bracket, and shield clamp), (spare part), 4 units	6ES7590-5CA10-0XA0
Shield clamp (spare part), 10 units	6ES7590-5BA00-0AA0
70 mm display for CPU (spare part)	6ES7591-1BA00-0AA0
35 mm display for CPU (spare part)	6ES7591-1AA00-0AA0